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Original Communications.

HIP-JOINT DISLOCATION.

THE following are the cases which have entered the Massachusetts General Hospital during the past three years, with the exception of those published by Dr. Bigelow in his work on "The Hip," and two cases of dorsal luxation which were reported in this JOURNAL three years ago from the wards of Drs. Bigelow and Hodges.

H. H. A. BEACH.

CASE I.—*Dorsal Dislocation; 8 Months.* (Service of Dr. HODGES.)—May, 1868. Female, æt. 27, fell on a floor, eight months before she was admitted, and struck upon the left hip. Two medical men were called, who applied extension and counter-extension "to set the leg." The patient was confined to her bed for a number of months, and has not been able to walk since, unless with the greatest difficulty. When she entered, it was found that she could bear but little weight on the injured limb, which was about one and a half inch shorter than the other and the foot inverted. She walked with great difficulty and a decided limp. On examination under ether, it was decided by Drs. Cabot and Hodges to be a case of unreduced dorsal dislocation. Dr. Hodges reduced the luxation by flexion, abduction and extension, without using much force. A bandage was placed about the knees, and the patient put to bed. She had a trifling amount of pain in the neighborhood of the joint for a day or two after the reduction had been accomplished, and in twelve days she was able to move about the wards with the aid of a chair. Four days after, it was first noticed that the limb had shortened, and, on examination, it was found to be luxated again on to the dorsum. Dr. Bigelow saw the case, in consultation with Dr. Hodges, and the dislocation was again reduced; the head of the bone showing great tendency to slip from the socket, the thigh was flexed, abducted down upon the mattrass and confined to the side of the bed, while the foot was tied to the sound knee. In this position of flexion, abduction and eversion, the head of the femur pointing vertically upwards, the patient was confined to the bed for three weeks; ten days after which she was discharged, well.

CASE II.—*Thyroid Dislocation; 4 Years.* (Service of Dr. BIGELOW.)—June, 1869. Female child, æt. 6. Four years ago, she fell from a car-seat and produced a thyroid luxation of the right femur. It was not to be expected that a luxation occurring in a child of 2 years of age, and remaining unreduced for four years, could be replaced, or indeed that a socket would yet exist, but the thigh and leg, which were in this case firmly flexed at right angles with the body, were brought down by treatment. There was, at the time of entrance, extreme flexion and abduction of the thigh, which, of course, prevented her from touching the ground with her right foot, and compelled the use of crutches; the tendon of the rectus femoris, near its origin, was very tense; all the other muscles of that limb were much atrophied, and there was talipes equinus of the right foot. Ether having been administered, Dr. Bigelow performed tenotomy on the tendon of the rectus, about an inch from the anterior superior spinous process of the ilium, and the limb extended a little. It was still incapable of much motion of the head of the femur in its socket. The anterior portion of the capsular ligament was now divided subcutaneously and reduction attempted, but the adhesions were so strong that it was not deemed advisable to complete reduction, as the femur gave evidence of commencing green-stick fracture. The head of the femur was carried a little farther on to the dorsum of the ilium, and maintained in that position by coaptation splints applied to the femur, and an extension of three pounds in the line of its axis, the leg being rotated outward and a pillow placed underneath. This extension was continued for a month, when it was transferred to the leg. One week after, the patient was etherized, and the flexion at the knee joint reduced by force. Tenotomy was at this time perform-

ed on the tendo-Achillis, to correct the equinus. In a week, extension was discontinued, and in another she was allowed to use crutches. She was discharged in ten days after, being able to walk and to move about with ease, without apparatus, the leg readily resting in the axis of the trunk.

Case III.—*Dorsal Dislocation*; 3 *Hours*. (Service of Dr. Bigelow.)—December, 1870. Male, æt. 35, while descending a ladder from a building, which was being raised, the support gave way and the building fell upon the patient, who was saved from being completely crushed by being thrown to the side of a pile of boards. Notwithstanding this protection, his right hip was dislocated on to the dorsum ilii, and the sixth rib of the right side fractured at its middle. The patient being under ether, Dr. Bigelow reduced the luxation, before the class, in about three seconds, by flexion, abduction and eversion of the thigh; the limbs were bandaged together, and a strip of adhesive plaster applied over the fractured rib from spine to sternum. In ten days he was discharged, well.

In connection with the above, extracts containing reports of some recent interesting cases are appended. The first is from the London *Medical Times and Gazette*, and was under the care of Mr. De Morgan, at the Middlesex Hospital. The dislocation was into the thyroid foramen, and reduction was accomplished with the aid of pulleys, after failure by manipulation. The second and third are from the *Michigan University Medical Journal*, and are reported by Dr. Homer O. Hitchcock. One of them, a luxation of the hip of 7½ weeks' standing, was successfully reduced by manipulation; and the other, a case of dislocation of both thighs, was treated by manipulation, but reduction was supposed to have taken place six weeks after. The fourth, from the *American Journal of the Medical Sciences*, was a dorsal luxation of five and a half months' standing, reduced by manipulation, and reported by J. H. McKee, M.D., of Bannack City, Montana.

Case I.—Patrick H., a laborer, aged 35, and a strong, robust man, had been drinking rather freely on Sunday, July 10, 1870, but was not at all drunk. He began jumping in a field, and had twice cleared a hedge with a ditch beyond, when, on taking it the third time, he alighted with his left foot in the ditch, and his right upon the bank in front. His thighs were thus widely separated, and he immediately felt a sudden "start" in the right hip-joint, and fell forward. He attempted to rise, but could not do so, and was lifted into a cab, and brought directly to the hospital. He had never injured himself before, and had only once been laid up—seven or eight years previously—with rheumatic fever.

On examination, after getting him to bed, it was found that the right leg was markedly everted, and that abduction was impossible; that a distinct hollow existed on the outer side of the right hip, in the situation of the trochanter major; that beneath the attachment of the abductor muscles to the pelvis a hard prominence could be felt, and that the muscles themselves were much stretched. The right leg was lying widely separated from the left, and from the median line, and could not be brought nearer without the attempt causing great pain. From the position of the right limb it does not seem to have been evident to superficial observation which limb was the longer, but a measurement taken from the anterior superior iliac spine to the external condyle of the femur on each side showed the right to be two inches shorter than the left. (This measurement, however, must have been affected by the adducted position of the limb.)

Mr. De Morgan first tried to reduce the dislocation by manipulation, flexing the knee thoroughly, and then bringing the thigh across the abdomen with a rotary movement; and this failing, whilst the man was kept fully under chloroform, the pulleys were applied, and after much trouble the head of the bone shifted to the dorsum ilii, and finally returned to the acetabulum. The limb was afterwards kept absolutely at rest, and the man went out well in a few weeks.

Case II.—On the 24th of July, 1869, Miss K. I——, of Paw Paw, 14 years of age, was thrown from a buggy, and struck upon the left hip with considerable violence. She was taken up, unable to walk or even move her left limb, and complaining of great pain in the neighborhood of the hip-joint, and was carried to her father's house where Dr. —— saw her almost immediately; and later in the evening Dr. ..... saw her. There was much swelling and great tenderness around the hip-joint, and the exact nature of the case was not fully made out until the fourth day after the accident.

I am not definitely informed as to the position of the limb during those four days, but was told that there was no apparent shortening.

On the Wednesday after the accident, on more careful examination, the patient being under chloroform, it was decided by Drs. ..... and ——, that there was a dislocation

of the femur, the head of the bone lying at, or near, the ischiatic notch. They made an effort to reduce it by manipulation, and believed that they had succeeded, for a sudden motion of the head of the bone took place, accompanied by an abrupt, dull, but distinctly audible sound, and the limb, placed by its fellow, appeared to the eye to be in the proper relations, and was found to be of equal length. There followed quite a sharp inflammation around the joint, accompanied by much swelling, soreness and pain, with complete inability to move the limb.

When I was called to see the patient, just seven weeks after the limb was believed to have been reduced, Dr. —— told me that soon after the reduction, the limb appeared to him "inclined to draw up," and he supposed at the time of my visit "the limb was about half an inch shorter than its fellow."

I found the patient of rather slight frame, with soft and flabby muscles, lying on her back with her left limb semi-flexed at both the knee and hip, inclined very decidedly inward, the axis of the left femur crossing that of the right near its middle, and the toe of the left foot touching the instep of the right, with a considerable prominence of the left hip over the acetabulum, with inability to bear any weight upon the limb, or voluntarily to move it. The limb was also shorter than its fellow by an inch and a half. My diagnosis was dislocation of the femur with the head of the bone upon the dorsum ilii.

Having been requested by the father of the patient to make an attempt to reduce the limb, I insisted that before that was done Dr. ....., who had first reduced the limb as he supposed, should be joined to the council. On examining the limb Dr. ..... readily coincided with me in the diagnosis, and it was agreed that on the following day an attempt should be made to reduce the dislocation.

Accordingly the patient, having been fully anæsthetized, was laid on her back upon a piano and the reduction was attempted by manipulation according to Reid's method. At the first attempt the head of the bone was moved from its resting place above the acetabulum, with a sudden jerky motion and dull sound, but distinctly audible to all around; and the limb, when brought down by the side of its fellow, was found to be of equal length and appeared to be in all respects in its normal relations. In a few minutes, however, it began to draw up, and the head of the femur was soon found again upon the dorsum ilii. This process was repeated several times with like results.

We succeeded no better when making considerable extension with the Jarvis adjustor. At length having brought the limb across the abdomen in extreme flexion, and the head of the bone having been carried around the rim of the acetabulum to near its lower portion, the circle being described by the knee was continued until the limb was nearly perpendicular to the pelvis, when the limb was carried forcibly outward over a solid roll of cloth as a fulcrum held firmly under the trochanter while the pelvis was held firmly to the table; an outward rotary motion was also given to the thigh, when the head was distinctly felt and heard to slip over the hip into its normal position and the reduction was found to be complete. There followed considerable inflammation about the joint and great soreness in all the muscles of the upper part of the thigh and hip, which yielded after a little to treatment without any sign of suppuration. Passive motion began to be practised in about ten days, and the limb was kept for some time on a double inclined plane. The limb soon after its reduction was noticed to be somewhat everted and slightly flexed at the knee.

These signs, with the continued soreness about the joint and the inability of the patient, voluntarily, to move the limb, led another practitioner, who happened to see the case a few weeks after its reduction, to pronounce that there existed fracture at the neck of the femur, and indeed he claimed to find an inch and a half of shortening of the limb. I saw the patient just eight weeks after I reduced the dislocation and carefully examined as to the condition of the limb. The patient had that day rode out for an hour and a half without weariness or pain to the limb. She did not use the left limb and could bear but little weight upon it, and there was apparent shortening, and the limb was slightly everted and flexed at the knee. But the relation of the trochanter to the anterior superior spinous process of the ilium appeared entirely normal, with the exception that it was a little too far outward, and the whole contour of the hip seemed a little flatter than that of the other. But when the limbs were placed as nearly as possible parallel there could be made not more than one-eighth inch difference in their lengths. Passive motion could be practised without pain, except when the limb was forcibly rotated or carried forcibly outward or inward. There was still some

soreness about the joint and along the adductor muscles of the thigh. The general health and appearance of the patient had greatly improved. I thought I was justified in positively assuring the patient and her friends that there was no fracture and that the limb was still properly adjusted and would after a few months be a good and useful one, though probably always a little stiff and the foot slightly everted. And I directed that she immediately commence the use of crutches and the use of the limb as much as possible without giving too much pain.

On the 8th of December I saw her father, who assured me that the patient was doing very well, and improving every day in the use of the limb. In January or February after, I learned that she had discontinued the use of her crutches and that she had even engaged in dancing.

In a review of this case there are noticeable several points of interest.

1st. Was the dislocation reduced at the first effort of Drs. ..... and ——, and subsequently redislocated?

That this might have been so is I think very possible, for the subject was a young girl with light flabby muscles; and cases are not very infrequently reported of redislocations after reduction, even while the patient is in bed and using no very extensive or violent motions.

On the other hand, however, no marked and sudden change in the limb in this case was noticed by the attending surgeon at any time, but there appeared to be a gradual shortening of the limb and that too from soon after its supposed reduction.

And it is not impossible that the doctors, though altogether competent and honest, were mistaken and regarded the sudden movement of the head of the femur along the rim of the acetabulum, giving as it did a distinctly audible sound, as evidence of its complete reduction. Indeed, at the second effort to reduce it we were all, for a time at least, thus deceived, the deformity about the hip having been largely removed, and the limbs becoming of equal length. Our deception would have been continued had not the limb before our eyes begun to shorten up.

2d. The dislocation was at first probably into the ischiatic notch, or, as it is better named by Dr. Henry J. Bigelow, in his admirable monograph "On the Hip," "upon the dorsum ilii below the tendon of the obturator internus." It is probable I think that the first effort at reduction ruptured that tendon and brought the head of the femur down toward the thyroid foramen, where it remained for some time, but was gradually dislodged and drawn upward until, no longer impeded by the tendon of the obturator internus, now ruptured, it was found upon the dorsum ilii above the acetabulum.

3d. My experience at the second effort at reduction goes far toward convincing me that there is no need of "pulleys" or the "adjustor" to make extension for the reduction of even old dislocations of the hip. At our first manipulation the head was brought down as low as at the last and successful one, and there was only needed that the limb, at right angles with the fixed pelvis be carried forcibly out over a fulcrum under the trochanter to make the reduction then complete.

The use of the adjustor complicated matters and I think did injury. The femur in all regular dislocations of the hip is a lever of the first order with the fulcrum between the power and the weight, the Y shaped ligament, so admirably demonstrated by Dr. Henry J. Bigelow, of Boston, being the fulcrum. The disproportion in the length of the arms of the lever is so great as to enable us to make use of immense power even by manipulation, and this lever appears to me to be of itself all the machinery necessary for the perfect and easy reduction of all regular dislocations of the hip-joint.

4th. Why was the limb everted after its final adjustment? In my opinion either by our extension with the adjustor, or by the forcible abduction of the limb at the last and successful effort, the external fasciculus of the Y shaped ligament was ruptured and allowed the limb by its own weight to roll outward.

5th. If a limb can be reduced after a dislocation of seven and a half weeks so readily when working in accordance with nature and the laws of simple mechanics, who shall fix upon the time after which it may not be reduced?

Case III. In the autumn of 1866, I was requested to see —— ——, of Oshtemo, in consultation. I found a man of about 45 years of age, of fair muscular development, with a peculiar deformity about his pelvis, and wholly unable to walk, although he could stand on his feet if he supported himself by two chairs. Both legs appeared to be nearly immovable at the pelvis, and seemed to be too far forward in their relations to the bones of the pelvis, and also to stand outward and forward at a considerable angle. Both legs and feet were con-

siderably œdematous, and efforts to move them on the pelvis gave him pain. Eight weeks previous, his team, hitched to a lumber wagon, had run away with him through a forest, and, one wheel suddenly striking a large tree, he was thrown very violently out, striking his pelvis against a solid tree. He was found in an insensible state, and conveyed to his home, and Dr. C— was called. Dr. C—, finding the injuries quite serious, despatched a messenger for counsel—and Dr. F— was also soon in attendance. They found both femora dislocated and made faithful efforts by manipulation to reduce them, and both bones appeared to them to pass back into position with an audible sound. The man was kept upon his bed for six weeks, when one night he attempted to gratify the sexual desire with his wife, and while in the very act he both felt and heard something give away about the hips, and from that time onward they were in the condition that I found them two weeks later.

This man had sought to make me blamable for his present condition because I did not at first attend the case in council, when requested so to do.

On careful examination I found the heads of both femora in the thyroid foramina. I offered to make a careful and faithful effort to reduce the limbs, but as he had already consulted a lawyer to see if in some way he could not hold me responsible for his condition, I insisted that he should first sign a paper releasing me entirely from the consequences of the effort to reduce the bones. He was not willing to do this, and in a short time he left this part of the country, and I have heard nothing of him since.

I feel very certain that those limbs might with care have been reduced, although eight weeks had passed since the dislocation. It appears to me altogether improbable that the limbs were at first reduced—but the doctors were undoubtedly deceived by the movements of the heads of the bones around the rim of the acetabula, and by the slight noise they made in the passage. The heads of both femora were probably brought down to a level with the acetabula, and appeared to the eye, when straightened out, to be in normal relations to the pelvis, and to each other. Had they been fairly reduced, it is not probable that, six weeks after, an act to which man is considerably addicted would have dislocated the bones again. But it is easy to see that such an act might cause the heads of the bones to glide down the side of the acetabula into the foramina. If another such case presents itself I shall not hesitate to attempt the reduction.

Case IV.—Mrs. B., æt. 27, of moderate general health, while travelling with her husband and two little children from Bannack to Salmon City, Idaho, one hundred and ten miles, was thrown a considerable distance from an overturning wagon going down a steep hill, and alighted upon her left knee on solid ground. Not feeling herself injured, so sudden was the shock, she attempted to rise to rescue her infant then lying some ten feet distant, but when half erect she fell back helpless, and concluded she had badly sprained her limb. Hoping it might be restored by the use of liniments, &c., no examination was made, and they proceeded on their journey yet forty miles, the patient all the while suffering the most excruciating pain. There being no physician or surgeon in Salmon, or at the time nearer than Virginia City, Montana, one hundred and eighty miles, it was determined to fully test the virtues of external applications, which were persevered in for about five weeks, when they returned to Bannack to procure surgical aid. A doctor was called from Virginia City, who detected a dislocation; *guessed* there was a fracture somewhere in the hip-joint, pronounced that nothing could be done, applied a long splint extending from the knee to the crest of the ilium, and left the patient to make the best of her misfortune. So matters remained; the patient not returning home till the early part of August, when I, having recently located in Bannack, was consulted.

I found the patient quite emaciated, not only from great suffering with the limb, but from a chronic cystitis of many years' standing, which was especially troublesome and painful during pregnancy. She was also in the third month of pregnancy; and stated that for several months before the accident, and during the latter months of her last pregnancy, she felt a disposition in her left hip to slip, insomuch that she was at times helpless and compelled to keep her bed, thus proving that either the socket was very shallow or the ligaments within and around it were very weak. The left limb was two and a half inches shorter than its fellow, and dangled powerless like a dead member. The head of the femur could be easily felt high upon the dorsum ilii, the patella facing the internal condyle of the opposite knee, and the toes quite advanced and hugging the instep of the opposite foot.

In view of all these discouraging features, the long standing of the dislocation, and no professional counsel, I was somewhat at a

loss to determine what to do. The patient's life was one of torture, increased at the time by her cystitis and pregnancy; and while the procuring of abortion was regarded a desperate remedy, it was nevertheless considered, and the idea abandoned. Upon a consultation with the family and friends, and a full explanation of the nature and uncertainty of success in the operation, I decided to attempt reduction by manipulation.

Accordingly on the 10th of August, having selected as the anæsthetic equal parts of chloroform and alcohol, anæsthesia to be maintained by ether, and having prepared the patient on a low couch with pelvis firmly fixed by a T-shaped system of padded straps fastened to the floor and side rails of the bed, I cautiously administered the chloroform to full insensibility, and then grasping the ankle with my left hand, with the bend of my right arm under the knee, giving me perfect control of the limb, I slowly flexed the thigh inward and upon the abdomen, to dislodge and throw out the head of the femur and relax the Y ligament, and then with a circular abduction over the abdomen, brought the thigh to a perpendicular and right angle with the body with slight rotation and sudden and forcible traction in the direction of and against the socket, and then down alongside its fellow. Comparison showing it too short, the same movements were repeated, but this time flexing the thigh less, and making firmer traction perpendicularly toward the socket; this was followed by an *audible snap* announcing the completion of the work, and then bringing down the limb and comparing it with its fellow, I found it to mate it in every particular. To secure it in this position and prevent a luxation on a reaction and contraction of the muscles of the hip-joint, the knee slightly everted was firmly bound to the bed-rail until the muscles and ligaments concerned had become reconciled to the new location of the head of the femur. The operation occupied but *one minute*, and was performed without the aid of any person or machinery.

The patient gained strength in the hip slowly on account of her feeble health, until, at the expiration of about two weeks, by some imprudent movement on her part, she slipped the hip, but it was easily replaced again, the head of the bone taking its place with an audible snap.

The patient's condition now continued to slowly improve, but her pregnancy advancing so rapidly, the predisposition of the hip-joints to slip during this state, formerly so annoying, began to be felt in the right hip, rendering her almost helpless, besides impeding the recovery of the wounded hip, and indubitable evidence having been furnished of the extreme shallowness of the socket, and of the great relaxation of the ilio-femoral or Y ligament, it was found impossible without the use of the angular splint as recommended by Bigelow (which in her condition could not be applied) to hold the femur steadily in its place; for in defiance of all efforts the femur was disposed to settle upon the lower edge, or just below the socket as the patient lay upon her back. The limb, however, remains the exact mate of its fellow, and foot everted to the same degree as the other, while strength and use of the limb are gradually regained, so that now, October 1st, she moves about on crutches; bears considerable weight upon the foot, and will eventually find it a useful limb, but not much so until after her confinement.

AN INSTANCE OF A SO-CALLED "ENDLESS" NERVE, WITH REMARKS.

By Thomas Dwight, Jr., M.D., Boston.

Professor Hyrtl, in the *Natural History Review* for 1862, called attention to a peculiar kind of anastomosis between nerves in which certain fibres passing from one trunk to the other return to the nervous centres without any peripheral distribution. These he called "endless nerves" (nerven ohne ende). The most familiar examples are the anta-hypoglossi formed by the descending branch of that nerve uniting with fibres from the second and third cervical, and also the union of two of the terminal branches of the two hypoglossi in the substance of the tongue.

As far as I know, these nerves have been observed only in human anatomy, so that the occurrence of an example in a lower animal is worthy of notice. The present instance occurred in the face of a common seal (*Phoca vitulina*), in which the second division of the fifth pair is very large, and chiefly distributed to and among the roots of the hairs of the upper lip. The facial is not more than a fourth as large. In this specimen, several of the smallest fibrillæ of these nerves form a network together, as is usually the case; but in one instance a small bundle of fibres of one nerve is seen to unite with one from the other at some distance from their final breaking up, and one small band goes as a loop from one bundle to the other. As the specimen had been detached from the bone before dissection

(which had been undertaken to show the relations of the nerves to the hairs), it is impossible to say how far this loop might have been traced; it could be followed to the point of exit of the fifth nerve from the infra-orbital foramen, where it had been divided, but the facial had unfortunately become dry, so that it could not be traced throughout its whole length. The other side of the head of the seal was too much lacerated by the fatal shot to be available.

The consideration of this subject suggested that sufficient importance had hardly been ascribed to the great number of communications between the different nerves of the cerebro-spinal system, and that a more minute study of these inosculations might tend to throw light on many obscure points.

Anastomoses (using the word loosely) of nerves may be divided into two classes—the apparent and the real. The *apparent* are when one nerve places itself in apposition with another, which it again leaves. A remarkable example is furnished by the ulnar collateral branch of the musculo-spiral nerve, which, joining the ulnar nerve, lies for a considerable distance within its sheath without any interchange of fibres, and finally separates from it to be distributed to the inferior fibres of the triceps. The *true* anastomoses may be subdivided into "endless" nerves, in which the fibres return towards the centre, and into those anastomoses in which they continue together for a common distribution. The latter are again of two kinds—namely, of spinal or mixed nerves one with another, and between two of different nature. The spinal nerves, except most of the dorsal, interchange fibres shortly after leaving the spinal canal and again near the surface; and here the union is rather of small nerves than of minute filaments. Such anastomoses occur in the hands and feet; and it is worthy of notice that in the foot, in the sole, the two plantar nerves, both from the posterior tibial, and, on the dorsum, the musculo-cutaneous and the anterior tibial, although *all* are from the great sciatic, are joined to one another no less regularly than the three distinct nerves—the median, ulnar and musculo-spiral—which supply the hand. The union between nerves of different nature occurs sometimes when they are broken up into fine filaments, as is the case with the facial and the first and second divisions of the fifth pair, but also between the large trunks near their origin, as the pneumogastric, glosso-pharyngeal, spinal accessory and hypoglossal at the base of the skull. The two forms of true anastomosis often exist together, as is indeed the case with the specimen from the seal, some fibres passing backward to form the loop, while others go onward together.

Hyrtl, in this case, speaks only of coarse appearances, but the microscope reveals similar ones equally instructive. In the cornea of frogs and toads treated with chloride of gold, I have found, not as an occasional occurrence, but as a rule, that many nerve fibres turn backward. Owing to the tortuous course and tangled condition of the various fibres of any one bundle, it is nearly if not quite impossible to follow any particular nerve tube from its entrance into to its exit from the cornea; but it is very easy where a bundle of nerves bifurcates to trace fibres passing between each two of the three trunks which result, and at a short distance to see the same individual fibres take part in a similar arrangement. This is repeated so universally throughout the specimen, between the larger bundles, that it is hardly possible to avoid the conclusion that many fibres have no other destination than to form part of a system of loops.

Taking into account that many fibres of the roots of the nerves have a downward course after entering the spinal cord, it is hard to deny a certain plausibility to the theory that in connection with the ganglion cells the nerves form long circuits, like the wires of a galvanic battery. It is, however, worse than idle to form theories from imperfect data, and the only object of this paper, besides describing the specimens, is to call more attention to this remarkable system of loops, and to point out that by the immense number of anastomoses between its branches, the nervous system, including the sympathetic, may be held to play even a more general and important part in the regulation of the various functions in health and disease than has been attributed to it.

A CASE OF PERFORATION OF THE STOMACH.

By Samuel P. French, M.D., Warwick, Mass.

Mr. B., of Richmond, N. H., aged 55, tall and slim, has been a great sufferer for years from dyspepsia and bilious derangement. He has always been temperate. Although he has been complaining and melancholy for years and was considered by his neighbors to be very nervous, yet for the past eight years he has been confined to his house only six weeks—two last spring, and four just previous to his death.

In the attack last spring, he had great pain in his stomach, sour eructations and a little tenderness in the right hypochondrium. His skin was yellow, pulse slow, and the urine high colored. These symptoms soon passed off, and he regained his usual health. Yet he was constantly troubled with a sinking sensation at the epigastrium, which was relieved by food. He had pain after eating, which was relieved only by the use of pepsine. On the 5th of Dec., 1870, he was attacked with severe pain in his stomach. He had pyrexia, tongue covered with a yellowish coat, except the tip, which was red and dry, sour eructation, breath fetid, slight tenderness over the stomach on firm pressure—a greater degree of tenderness in the right hypochondrium, bowels costive, pulse 60, skin yellow, urine high colored, fæces dark, sometimes tarry. In two weeks the fever nearly left him. The tongue became moist and clean, then coated again and dry, sordes collected on the roof of his mouth, then the fauces became very red, and the fœtor almost insupportable. His appetite, however, returned, and he gained some strength. Three days before his death, he vomited nearly a quart of blood, and a considerable quantity of blood passed in his stools. He became cold, pulseless, and had every appearance of being in a dying state, but soon rallied. He then felt weak, but relieved of the oppression in the stomach—the redness of the fauces and the fœtor had disappeared. He was relieved of pain for three days, and took beef-tea and tannin, morphine and spirits of turpentine.

A second attack of hæmorrhage came on, not so profuse as the first, from which he did not rally. The medicines which relieved him the most were morphia, sub-nitrate of bismuth, pepsine, chloric ether, the old-fashioned draught of salts and senna, and an occcasional blue pill. Podophillin increased the pain.

The symptoms of gastric ulcer were not so well marked as in the case described in Vol. III., New series, No. 24 of this Journal. There was scarcely any tenderness in the region of the stomach, no vomiting, and but little nausea, yet there were constant eructations, the great distress, the fœtor and faintness. There were well-marked symptoms of liver derangement.

A post-mortem examination was made by Dr. Hardy and myself 36 hours after death. Subject much emaciated. On removing the liver, we found it much atrophied, a little more than half of its natural size, of a pale yellow color. A portion of the right lobe was red and soft. The spleen was extremely small. The stomach was largely adherent to the surrounding parts and to the spleen and pancreas throughout their entire contact. On separating the stomach from the pancreas, a circular opening, three inches in diameter, was discovered, perforating the walls of the stomach on its posterior surface, near the pylorus, and connecting with a cavity in the pancreas, three inches in diameter and a quarter of an inch deep. The edges of the opening were rounded, elevated, red and hard. The inside of the stomach was pale.

The hæmorrhage probably arose from the splenic artery, or its branches. This might account for the atrophied condition of the spleen.

The perforation had probably taken place sometime previous, for nine months before his death he discharged blood from the bowels.

FOREIGN BODY IN THE AIR-PASSAGES.

Translated by Henry Tuck, M.D., Boston.

The following case is reported by Masing, in the *St. Petersburg Med. Zeitschr.*, 1869, 7th Hft.

A man, aged 43, a peasant, had tracheotomy performed in 1864 for œdema glottidis. After a few days the canula was removed. After the healing of the wound in the trachea, he had attacks of suffocation, and tracheotomy was again performed.

For the next two years he had to wear the canula constantly, but for the last two years of his life he had sometimes worn it and sometimes not. In 1868, he was attacked with pneumonia, and died.

At the autopsy, there was found, about an inch below the wound in the trachea, ulceration of the mucous membrane down to the cartilages. At the point where the right bronchus gave off a large branch to the lower lobes of the right lung, was found embedded a silver canula 5 centimetres (1·95 inches) in length and 3 centimetres (1·17 inch) in circumference, its curve corresponding to the curve of the bronchus. The canula was blackened, its inner surface covered with mucus, but it was not filled up with it. The mucous membrane beneath the canula was hardly more congested than the rest. The lobes of the lung below the situation of the canula were everywhere filled with air, full of blood, and œdematous. The left lung was almost wholly hepatized,

with numerous small and one large mass of pus in it. How long the canula had been in the bronchus it is not possible to say, as the patient had never mentioned it at all.

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On Epilepsy: Anatomo-pathological and Clinical Notes. (With original Plates and Engravings.) By M. Gonzalez Echeverria, M.D. (Univ. Paris). New York: William Wood & Co. 1870. Pp. 386.

The author of this work is well and favorably known from his other writings. The present volume is a record of cases seen at various public institutions and in private practice. After the discussion of fifteen cases, with autopsies, a synoptic table of twenty-six cases follows, showing at a glance the symptoms and pathological changes.

The author claims that there is always to be found in those who die from epilepsy changes in the medulla oblongata. This has been considered by others to be the seat of deranged action in this disease. Dr. Echeverria claims also that there is a change in the sympathetic, which has not been noticed before. This lesion consists "mainly in a proliferation of connective elements, and their subsequent substitution to the nerve cells and fibres, finally undergoing retrograde degeneration." He supports this by the statement that he "has examined the sympathetic in fifteen cases of epilepsy without failing to detect a more or less impaired state of the cervical ganglia. Not unfrequently, there has been a conspicuous similarity between the injured ganglionic cells and those of the medulla, or in the middle and between the cornua of the spinal gray matter. But, although, as established by Jacubowitsch, sympathetic cells are located in these regions, yet I have not sufficient evidence to ground the opinion that the sympathetic suffered more damage than any other cells, or actually that those in the spinal cord, so hurt, were mainly sympathetic cells."

In many of the cases reported there was fatty or amyloid degeneration of the sympathetic. In some there was only increase of connective tissue mentioned. This is a difficult point to decide definitively, the normal size, color and consistency of the different parts of the sympathetic varying considerably in different individuals; and unless the increase of connective tissue is marked, it might not be safe to accept all the cases so reported to prove degeneration of that nerve.

The next chapter is devoted to the analysis of three hundred and six cases, especially discussing the greater prevalence of the disease in males than in females, and the influence of hereditary tendencies. In this the author shows that he is thoroughly acquainted with the views of others.

The cases are tabulated, showing that there were 176 females, 130 males, and giving at a glance the principal characteristics of each case. In regard to hereditary influence, from 80 cases in which information could be obtained, it was found that this influence was greater on the female than on the male side, and it is considered under the three aspects—

"1st. The reproduction of epilepsy directly traceable to the same affection in the parent.

"2d. As a modal diversity or transformation of preëxisting neuroses in the ascendants, entirely different from epilepsy itself.

"3d. Through agency of a systemic, but not essentially nervous, derangement in the parent, extending its injurious effects to the offspring."

With Trousseau and others, he refers the hereditary influence back not merely to epileptic ancestors, but to ancestors and others affected with any nervous diseases. Under the third heading he includes intemperance, phthisis, and also refers to the influence of consanguinity in the parents.

The influence of phthisis in predisposing to epilepsy in offspring seems to us not to be well supported by the figures given, considering how prevalent that disease is. Out of the 306 cases phthisis existed in the parents without other disease only eight times, 2·61 per cent. Three times the mother had cardiac disease and the father phthisis; once, in addition to a consumptive father, the mother was apoplectic or epileptic; and once the mother was epileptic and phthisical, while the father was a habitual drunkard.

While considering the accidental causes of epilepsy, he makes the following statement: "On the whole, then, I deem that the greater prevalence of nervous diseases now observed, acknowledges among its primary agencies the wide-spread abuse of alcoholics, being no less staggered at the number of epileptics deriving their dreadful malady from this ruling habit, which, among the lower classes, adds itself to aggravate paroxysms superinduced by other causes."

Chapter V. treats of the frequency and nature of the attacks, the aura, paralytic symptoms, appearance of the retina, state of circulation and respiration, and changes in the urine. All these points are well treated and are of interest, but we have no space to notice them farther, and we pass to the last chapter, on treatment.

Unfortunately removal of the cause, when it can be accomplished, does not cure the patient; the epileptic habit must be broken up. But with this must be associated a regenerative treatment, to improve nutrition.

"It would be assuredly too narrow-minded to rely on the efficacy of any of the so-called anti-epileptic remedies rather than on the more scientific and fruitful knowledge of the etiology of the disease, to establish the rational basis of therapeutic, which ought to counteract chiefly the physiological influences operating on every individual instance."

The author speaks very favorably of minute doses of strychnine given hypodermically, for its action on the circulation. Woorara he did not find to be of much use. Conium he considers the best narcotic. His testimony in regard to bromide of potassium is favorable. He adds from five to eight minims of Fowler's solution to each dose when it is desirable to prevent the cutaneous eruption. Shower baths, tepid and alkaline baths, and other hydrotherapeutic measures are recommended. This practice is too little in vogue with us, though general in Europe.

The hints in this chapter are invaluable for guidance in the rational treatment of epilepsy. The chapter closes with remarks in regard to epileptic insanity. A copious index adds to the value of the work.

It will be seen from what has been said that this book is chiefly the narration of the author's experience in over three hundred cases of epilepsy, with a careful discussion of the views of others, whether supported or not by his experience. As a careful review of such a mass of facts the work is valuable. The author has been unusually minute in his investigations, and has added to our knowledge of this severe disease. The illustrations are well executed, and assist materially to the understanding of the cases reported.

It is unfortunate that a friend better acquainted with English had not corrected the proofs. Many sentences are uncouth, and sometimes difficult to understand, and there is frequently a mistaking of prepositions. This is however a minor defect.

S. G. W.

Medical and Surgical Journal.

Boston: Thursday, February 23, 1871.

TREATMENT OF TUBERCULOSIS.

At a time when traditional pathological notions are subjected to such unceremonious treatment, and when theories are supplanted almost as quickly as they are advanced and made to appear plausible, when Virchow and Bennett and Cohnheim in turn succeed each other so rapidly on the microscopic stage, it is not perhaps wonderful that other departments in medical science should feel this revolutionary tendency, and that occasionally the tables are turned in therapeutics in a way that would surprise the later as well as the earlier fathers. M. Beaufort, in the face of the restorative disposition of our times, proposes to treat tuberculosis by means of "alteratives" as follows. In an article in the *Bulletin de Thérap. Entique*, he says:

"We use with the greatest success the following formula, and we find it can be applied in a large number of cases.

Distilled water, 120 grammes.
Iodide of arsenic, 5 centigrammes.
Dissolve and add,
Biniodide of mercury, 20 centigrammes.
Iodide of potassium, 2 to 5 grammes.
Filter. Dose, one to three teaspoonsful, in milk or in a bitter infusion.

"This formula represents 'Donovan's solution,' the dose being modified. The combination of the two iodides derives its advantage from the great similarity of action of the two agents, mercury and arsenic. With small doses we observe, under the influence of this happy union, the general and, at the same time, the local condition of tuberculous patients to improve in a most favorable manner, and, after a systematic course of treatment extending through four, five or six months, a cure more or less complete according to the stage of the disease. Care is taken to interrupt the treatment every twenty or thirty days, and often, if possible, we give muriate of ammonia concurrently. The use of this latter remedy

should, however, be attended with caution. Having an undoubted action on inflammatory and tuberculous infiltrations, it acts sometimes so quickly and so energetically that its reckless use may end fatally. Under the liquefying influence of this salt, all the absorbent orifices are opened at once, and the blood is charged with an enormous amount of poisonous matter; it is needless to insist on the deleterious effects of this poisoning. The dose should not exceed two to four grammes in the twenty-four hours, and it is well to suspend it in good time, so as to avoid the ill effects. It should hardly be used in the third or at the end of the second stage of the disease, or by patients whose symptoms have become general, or are of long duration, or by those who are subject to hæmoptysis.

"If tuberculosis is very frequently curable in its organic manifestations, as curable, indeed, as ordinary diseases, it is nevertheless a diathetic disease of which the system rids itself but slowly; recurrence of the symptoms is often to be dreaded, although, with the treatment here proposed, it is postponed farther, and becomes less and less serious. Tuberculous patients should be watched a long time, and ought at intervals to return to the treatment so as to anticipate renewed local manifestation of the disease."

Death from Chloroform.—The Philadelphia *Medical News and Library*, in quoting from our columns a case where death followed the administration of ether (see this Journal for Dec. 8th, 1870), seems to lay stress upon the statement made by us that there had been an overdose. The remark was intended to convey the idea that it was an overdose only by reason of the small amount of air allowed the patient during the administration. Any reasonable person might doubt that a patient who manifested sensibility would be killed by a drachm of ether, yet this was the condition of Dr. Burnham's patient according to his history of the case, before he gave the last drachm. It is fair to infer that a napkin held firmly over the mouth with no opportunity to inhale the necessary amount of air to support life, might cause death with a drachm of ether off or on. The *Medical Times* (Philadelphia) in quoting this case is candid enough to comment, "that time and measure were evidently simply guessed at, and that it is very probable that much more ether was really used than Dr. Burnham thinks." During an altercation between an operator and his assistant the reiterated order is given to "crowd that ether." Surely the circumstances are not such as to favor accurate observation. The case was admitted to our columns, as often happens, with other articles, without our endorsement of its conclusions; and we leave it now, as we did then, to the candid judgment of our readers, merely expressing our own conviction that it by no means proves a death from ether according to the just definition of such an occurrence, viz., "that it should be unavoidable by any precaution which might be adopted were the patient to be again rendered insensible." We consider that the question of a death by ether could only have been decided by close investigation and scrutiny, which it certainly did not receive at the hands of the surgeon; especially as the most careful scientific study and the experience of twenty years have proved such a result to be beyond possibility.

On the Nature and Causes of Hysterical Phenomena.—The Italian *Gazzetta Medica* gives the following *résumé* of Dr. Chairoud's observations on the relation of diseases of the ovary to hysteria. 1. When compression or inflammation of one ovary, or both, exists, paralysis of the reflex movements of the epiglottis and of the pharynx constantly occurs. 2. The combination of these two groups of symptoms in one individual may be designated the hysterical cachexia. 3. The hysterical paroxysm is only the consequence of this reflex paralysis. The suffocating attack is occasioned by the paralyzed epiglottis narrowing the orifice of the larynx, and then there follow the convulsive movements of the extremities and the muscular spasms that collectively constitute the hysterical crisis. 4. The asphyxia proceeding from the frequent recurrence of these symptoms gradually leads to a change of the whole physical nature of the patient. From hence result the various sensorial disturbances and the anæsthetic conditions that are exhibited by almost all

hysterical patients. The treatment of hysteria should, if these views are correct, be directed to functional disturbances of the ovaries, and is in consequence purely local, with a view of subduing the oophoritis, as the primary if not the only cause of hysteria.—*Gazzetta Med. Ital.-Lombard.*

Prof. Billroth on Gun-shot Wounds.—We extract the following from a letter of the war correspondent to the London *Medical Times and Gazette*:—

Prof. Billroth, in opening his clinic for the year, observed that, by a curious coincidence, his first case gave him the opportunity of stating the results of the experience he had acquired during the present war, from the seat of which he had just returned, with regard to the embedding of metal substances, and especially bullets, in the body. In most books on military surgery, the ease with which these bodies become embedded is stated as a practical reason for not meddling with them. This man, while striking an anvil, four months ago, was struck on the left forearm by a piece of iron, which penetrated its volar surface. This, about three-quarters of an inch in length, could be felt an inch and a half distant from the small cicatrix left by the easily healed wound. It proved of little inconvenience, except when the man engaged in heavy work, when it caused pain. It was easily removed, and had caused no suppuration. The Professor has frequently met with similar cases, in which splinters of metal or glass, shot, or revolver balls have caused little inconvenience. Needles, in the same way, may remain months or years. But as regards modern projectiles, the case is different, the experience of Prof. Billroth, as well as that of all army surgeons with whom he has conversed upon the subject, leading to the conclusion that these, sooner or later, when detained in the body, give rise to suppuration, and that their embedment, without giving rise to pain or suppuration, is to be regarded as quite exceptional. Still, in the present war, instances have been observed in which these balls have been embedded and encapsulated. The vast majority of the wounds in this war have been caused by the chassepôt or needle gun, or fragments of shells; and in all the inquiries he made at the numerous hospitals he visited, embracing thousands of patients, Prof. Billroth could find no account of the injuries done by the balls of the mitrailleuse; so that, although these are larger, they do not seem to leave any distinctive mark of their action. He also saw very few sword wounds, and not a single bayonet wound.

Most of the projectiles which Prof. Billroth either extracted or saw extracted had their form utterly changed, being converted for the most part into sharply angular lumps of metal. His sphere of activity not having been close to the battle-field, he only sought for balls when there was acute and enduring suppuration. The sharp angles of the projectiles gave rise to great mechanical irritation; and when the projectiles could not be found, although even repeated incisions for the discharge of pus did not abate the progressive phlegmon, this immediately ceased when the projectile was removed. The same observations apply to shell-splinters, which usually also had sharp angles. The changes in form in the projectiles arise from their striking bones, either fracturing or greatly contusing them. The mutual sympathy prevailing between the periosteum and the bone exerts great influence in the induction of the phlegmonous process. Acute osteomyelitis and periostitis so commonly lead to suppuration of the cellular tissue, that one as much as the other must be regarded as directly induced by the presence of these angular projectiles—these keeping up the phlegmon first induced by the injury to the bone.

Even when the projectiles injuring bones are unchanged in form, they usually exert a pyogenic influence, although this may not show itself until from two to eight weeks after the injury. The head of the humerus, the tibia, and ends of the femur are the localities in which projectiles that have undergone little change are most frequently found; and, although these are sometimes found embedded (*eingeheilt*), yet this is extremely rare. The bone is usually crushed; but when this is not the case, still suppurative ostitis, periostitis, or articular inflammation is produced, sometimes very late and unexpectedly. When in such cases we are able to extract the ball without opening into a joint, a favorable result may ensue with extraordinary rapidity. Prof. Billroth refers to a case in which he extracted an entirely unchanged chassepôt ball after opening an abscess on the right scapula, which had remained there for three weeks and escaped numerous attempts at detection. Another also unchanged ball was removed by a counter-opening made for a phlegmonous abscess in the back part of the leg, although it was stated with great positiveness that no bullet could have lodged there. These and other cases show that an un-

changed and smooth projectile, which has not come into contact with bone, may yet give rise to obstinate suppuration. In such cases, the violent tearing of the loose cellular tissue by these heavy metallic bodies is the chief cause of this. Light metallic bodies do not produce this effect, as has been already shown. Slight flesh wounds, however, were seen by Prof. Billroth only in very small numbers, as such patients were generally transported at once to the more distant hospitals. As the result of all these observations, the rule should be, where it can be accomplished without difficulty, to remove the ball at once, and not let it remain, without some very special grounds, and that independently of the joy the soldier always feels when he knows the ball has been extracted, and safely deposited in his purse. This rule applies almost exclusively to gun-shot wounds of the extremities, as seeking for balls within the great cavities or in the deep parts of the neck is seldom an allowable procedure.

For the extraction of balls, Dr. Billroth has almost always employed only long, strong bullet forceps, or polypus forceps; and, luckily, he had brought a great number of these instruments with him. The American bullet-forceps, as commonly made, is considered by himself, as well as by all his colleagues, as too weak, and possessing no advantage. He heard of some cases in which the diagnostic importance of Nélaton's porcelain sound was extolled, but the porcelain head of this should not exceed a large pea in size. He has several times removed balls from bones by means of the small elevators and rasps (*raspatorien*) which are used for sub-periosteal excisions. These instruments are also useful when we wish to turn a deeply placed ball in order to bring it better within the grasp of the forceps.

Where Shall we Send our Consumptive Patients?—Every day the inquiry is made as to what locality on this coast is best adapted for a Sanitarium—a place for convalescents, invalids, and consumptives. That no one locality will suit all cases is a palpable truth. An individual threatened with phthisis might find health in the mountains, during the summer, where he might even "camp out" with benefit; or a journey in the saddle, or a sea voyage might restore his health. The same may be said of persons affected with dyspepsia and similar disorders. But delicate females, and consumptive patients in more advanced stages of disease, must seek relief elsewhere. The summer winds of the bay and ocean climate are too chill; the interior is too hot and debilitating. There is a middle region, a narrow district skirting the bay, enjoying a medium climate. It embraces portions of the counties of Marin, Sonoma, Napa, Contra Costa, Alameda, Santa Clara, and San Mateo. But this is so often a battle-ground between the two climates, in which wind and mist on the one hand, and a broiling sun on the other, triumph alternately, that it does not supply the need. In the southern counties of the State is a range of territory some miles inland from the coast, which enjoys a more equable climate, both in summer and in winter. Los Angeles and San Diego are the two most attractive localities in this range, and the inhabitants of each place think their town the most salubrious spot on the globe. San Diego is more exempt from summer heat than Los Angeles, and being nearer the ocean has a more equable winter temperature. The inhabitants have secured a large stock of thermometers and pluviometers, and have become zealous meteorologists, and determined to demonstrate the unparalleled sanitary virtues of their growing burgh. Thus far San Diego has the lead in the race, and presents the strongest inducements to valetudinarians. But there is more to be learned on this important question, and the investigation belongs to the medical profession throughout the State. The organization of the State Medical Society, and the prospective meeting of the National Association in San Francisco, in May next, are vivifying some of our hybernating doctors, and bringing them out of their holes. We may expect, in the coming year, to acquire a creditable amount of knowledge of the climate of California in relation to health, and to have the question of a Sanitarium settled on a basis more definite than opinion and conjecture.—*Pacific Medical and Surgical Journal.*

Outrage at a Woman's Medical College.—At Cleveland, during the present month, the body of a poor woman was carried to the Woman's Medical College, that the "lady students" might make a *post-mortem* examination. This was, at least, the reason alleged by them for making the request, and they pledged "their honors" that, after this examination was made, the body of the unfortunate woman should receive decent burial.

An Episcopal clergyman was accordingly engaged, and, at the proper hour, the holy and beautiful burial rites of the Episcopal

Church were performed. On reaching the cemetery, suspicion was aroused, from the fact that no grave had been prepared. The coffin was then opened and found to contain billets of wood. The body, the "lady students" had retained for their delectable entertainment! Apart from the revolting and repulsive enormities of such a scandalous transaction, and apart, also, from the abhorrent violations of a sacred pledge, how can any one, in terms sufficiently excoriating, denounce those who would thus deliberately have performed over a mass of wood, the most sacred and solemn rites known to man? Such appalling blasphemy is without precedent and beyond description. Where woman turns away from the beautiful field in which God has placed and man ever welcomed her, how soon she becomes lost to every instinct which brings to her sex its tenderest blessings and its most engaging characteristics. How watchfully should she scrutinize the actions of those who thus degrade her, and how swift should she be to secure for them, after their unwomanly orgies, a sure and adequate retribution. If this is not done, if these "lady students" do not receive from their sex their proper punishment, soon the modern female will furnish a novel and melancholy translation to that classic aphorism, *propter uterum est mulier.—Richmond and Louisville Medical Journal.*

Infantile Paralysis.—Dr. Volkmann, in a clinical lecture, of which an abstract is published in the *Lyon Medical* of Nov. 6th, opposes the doctrine that fatty degeneration is an essential factor in infantile paralysis. He says:—

"It has been erroneously held that the paralyzed muscles undergo rapidly a fatty metamorphosis (*atrophie graisseuse* of the French). It is true that the muscles frequently end by becoming invaded with fatty metamorphosis; but this latter may be wanting even in cases where the most complete paralysis has existed for more than a year. I have often examined totally paralyzed muscles in various cases of infantile paralysis, and have only once observed marked fatty degeneration. At the most the primitive muscular fasciculi are seen to be finely punctuated, and their nuclei increased in number. Ordinarily there is more interstitial fat, and the fasciculi are more attenuated than in the normal condition. We cannot, therefore, admit with Duchenne de Boulogne that the degree of the paralysis corresponds exactly with the intensity of the fatty degeneration."

Dr. Wm. A. Hammond, of this city, some years ago, took similar ground, regarding infantile paralysis as "an affection in which the muscles become atrophied and lose their irritability, without necessarily undergoing fatty degeneration;" and in a note to his translation of Meyer's Medical Electricity (1869), adduces two cases of over four years duration, in which he found the structure of the muscle unchanged, adding:—"I am hence led to the conclusion that fatty degeneration, though the ordinary result of organic infantile paralysis, is not an invariable consequence." We are not aware, however, that attention has hitherto been called to the increase of the interstitial fat as an ordinary phenomenon of the disease, such increase being distinguished from the replacement of muscular tissue by fat.—*N. Y. Med. Gazette.*

Congenital Malformation of the Genital Organs. By Wharton Sinkler, M.D.—A male infant, aged three weeks, was brought to me at the Dispensary of the Episcopal Hospital, in the spring of 1869, with the following malformation of the genital organs, which the mother stated had existed since birth:—

The integument of the penis, instead of uniting in the median line on the under surface of that organ, was directly continuous with the scrotum, binding the penis closely down on the testicles, and giving it an extremely odd appearance. With this exception the penis was normal, and otherwise the child was well developed.

The mother was advised to wait until the child became older before any operation should be performed.

On June 9, 1869, the child being five months old, it was etherized by Dr. E. I. Santee, and I proceeded, with the assistance of Dr. J. H. Packard, at the residence of its parents, to perform the following operation. The skin was dissected up on each side of the penis for about one and a half inch, the corpus spongiosum and testicles being carefully avoided. The cut edges on the under surface of the penis and on the scrotum were then brought into accurate apposition by means of the hare-lip suture, a few strips of plaster used to support the whole, and a dressing of dry lint applied.

No retention of urine followed the operation, and in two weeks the cut surfaces were united, without any unfavorable symptom having occurred.

At the present time, the penis presents a natural appearance, although it is somewhat shorter than usual on the under surface, and has a slight tendency to curve downwards while in the flaccid condition; but when in a state of erection it becomes straight, and assumes a position at right angles to the body.—*Phil. Med. Times.*

Ingrowing Hairs from the Tragus Resting upon the Membrana Tympani. By Robert F. Weir, M.D.—In the year 1866, I noticed that a gentleman of my acquaintance, some sixty-odd years of age, whom I knew to have slight chronic simple catarrh of his ears, acted in a rather strange manner. He would, in the midst of a walk, or more frequently in conversation, suddenly and rapidly shake his head to and fro, inclining his right ear downward at the same time, in fact going through the motion that dogs and other animals do to shake the water or flies off. On asking him what was the matter, he said he felt something moving at times in his ear with a rattling, dry noise, especially in eating and yawning, and that it was extremely troublesome to him. He consented finally to let me look into his ear, and I found that several of the long hairs that sprang in abundance from the tragus had passed inward, and their free ends were resting in contact with the membrana tympani of the right side. The offending bodies could be seen to rub against the drum whenever the jaws were set in motion. There was no congestion visible of the canal or drum. The hairs were easily seized and removed, the attachment to their follicles being very easily overcome—whereupon he experienced immediate relief; though, since then, he has sought my assistance several times for a similar trouble affecting not only the same but the opposite ear. He was advised destruction of the hair-follicles, or, in lieu of this, epilation, and daily combing outward the hairs growing in this region.

Since then I have met with two similar cases—one in a middle-aged laboring man, and the other, as in the first case, in a man in advanced years. So far as my reading goes, these cases are unique, though undoubtedly they have been met with by other aurists.—*Transactions of the American Otological Society.*

The Aggregation of Blood Corpuscles.—In a paper recently published by Dr. Norris, of Queen's College, Birmingham, the cause of the aggregation of the blood corpuscles in rouleaux is discussed. The cause, we think, was not difficult to find if we reflect that all bodies, be they what they may, mutually attract each other to a certain point; but that, when they are not miscible, this point being attained, the attraction of the molecules of each body tends to keep it distinct from the other—the self-attraction is greater than the mutual attraction. All bodies floating in the sea ultimately reach the shore if there be no opposing force. As far as we know, the law of gravitation is universal, and applies to the infinitely small as well as to the infinitely great; and we do not see why blood corpuscles are to be exempted from the bonds of mutual attraction. That being so, the simple question arises, in what position will this be most powerfully exercised? The answer is plain, when their flattened surfaces are in contact—precisely the way they arrange themselves. But, furthermore, the pile they form could be only of limited length, for in a rouleaux of corpuscles there would be greater attractive power than in single ones, and these last would naturally arrange themselves at right angles to the rouleaux, and would in their turn form another, the two together forming a new centre of attraction, and thus a kind of network would be formed—precisely what takes place in the coagulation of blood. Dr. Norris seems to have overlooked the researches of the late Prof. Daniell on the subject of attraction and repulsion.—*Lond. Med. Times & Gaz.*

Poisonous Fertilizers.—A correspondent calls attention in the *Scientific American* to a source of ill-health that we do not remember to have seen noticed before. Speaking of preparing animal manures by sulphuric acid, he says:

Common oil of vitriol is, as far as I know, the substance used by all manufacturers; but I think none but the chemically pure acid should be used. The common acid often contains a small quantity of lead and arsenic, both of which are known to be absorbed by plants when presented to their roots.

Dr. Edmund Davy, professor of agriculture and agricultural chemistry, in the Royal Dublin Society, published a paper, in 1859, calling attention to the danger of using manures containing arsenic; yet there has not, up to the present time, I believe, been a pure article of superphosphate of lime put in the market. I think the use, for the purpose mentioned, of acid containing arsenic or lead ought to be prohibited by law.—*Med. and Surg. Reporter.*

Medical Miscellany.

A REMARKABLE instance of long and faithful service by a member of our profession in a post requiring much labor and yielding probably no emolument, is recorded in the *Cortland Co.* (*N. Y.*) *Republican*. Dr. Geo. W. Bradford, of the town of Homer, in that county, after having held the office of secretary and treasurer of the Cortland County Medical Society from 1825 to the close of last year, then declined being a candidate for re-election, on account of an increasing difficulty of hearing. It is stated that his forty-five years' public service for the Society have not abated his zeal and interest in its success, and that he is still active in furthering its advancement. Dr. B. had held the same office in the Cortland County Bible Society for the last thirty-seven years, and declined a reëlection in December for the same cause.

Dr. WILLIAM T. LUSK, of New York, has been recently appointed to the Chair of Obstetrics in Bellevue Hospital College. We learn with pleasure that his course of lectures on physiology, delivered before the medical class of Harvard University during the winter, have received the close attention of the gentlemen to whom they were addressed, and have won for him a well-deserved popularity.

GUARANA A SUBSTITUTE FOR TEA.—A late number of the *Pharmaceutical Journal* contains a paper on "Guarana," the seeds of a sapindaceous tree—the Paullinia sorbilis—which does not appear to have hitherto entered into European commerce. The guarana-yielding tree is found abundantly in the Amazonas. The fruit is scarcely as large as a walnut, and contains five or six seeds, which are roasted, then mixed with water, and moulded into a cylindrical form, resembling a large sausage, and finally dried in an oven. Before being used it is grated, and then resembles cacao. Two spoonfuls of the powder are mixed in a tumbler of water, and this drink is regarded as a stimulant and nervine tonic. Like strong tea or coffee, it is said to take away the disposition to sleep. The active chemical principle is an alkaloid that Dr. Stenhouse has shown to be identical with theine. Guarana contains more than double as much of this alkaloid as good black tea, and five times as much as coffee, the proportion being 5.07 per cent. in guarana.—*Lancet*.

PETROLEUM AS A DRESSING FOR ULCERS AND WOUNDS.—Prof. Fayrer, of Calcutta, has recently used petroleum, or earth-oil, as an external application to wounds and ulcers, with good results. Dr. Fayrer states that petroleum—which resembles carbolic acid in its action—is deodorant, antiseptic, stimulating and detergent, and that it possesses the power of limiting suppuration. Prof. Fayrer uses petroleum either undiluted or diluted with equal parts of oil or glycerine.—*Australian Medical Gazette*.

LIQUEUR DE VILLATTO.—M. Nélaton (*Union Med.*) recommends the subjoined modification of the liqueur de villatto as an injection to be thrown into the fistulous tracts connected with carious bone: Acetic acid, 100 parts; sulphate of copper and sulphate of zinc, of each 10 parts; acetate of lead, 5 parts. The solution requires shaking before using it, on account of the considerable precipitate.—*N. Y. Med. Record*.

TO CORRESPONDENTS.—Communications accepted:—Homœopathic Life Insurance.—Attempted Suicide by Swallowing Broken Glass.—Case of Meningeal Rheumatism, simulating Cerebro-spinal Meningitis.

BOOKS AND PAMPHLETS RECEIVED.—Modern Therapeutics: A Compendium of Recent Formulæ and Specific Therapeutical Directions. By Geo. B. Napheys, A.M., M.D., Philadelphia. Second Edition. Revised and Improved. Pp. 412.—Report of the Board of Health of the City of Chicago for 1867, 1868, 1869, and a Sanitary History of Chicago from 1833 to 1870. Pp. 332.—Report of the Trustees and Superintendent of the Butler (R. I.) Hospital for the Insane, presented to the Corporation at their Annual Meeting, Jan. 25, 1871. Pp. 30.—Annual Report of the Superintendent and Physician of the New York State Inebriate Asylum, Binghamton, N. Y., for the year 1870. Pp. 39.

MARRIED,—In this city, 15th inst., William M. Ballard, M.D., of Brooklyn, N. Y., to Miss Sibbel A. Duff, of Boston.

DIED,—At Montreal, P. Q., 7th inst., Dr. John Teasdale, aged 69 years.

Deaths in seventeen Cities and Towns of Massachusetts for the week ending Feb. 18, 1871.

Cities and towns.	Total.	Prevalent Diseases. Consumption.	Pneumonia.	Scarlet Fever.	Croup & Diphtheria.
Boston . . .	129	17	20	6	6
Charlestown	7	1	1	1	0
Worcester .	22	3	1	2	2
Lowell . . .	21	7	0	4	1
Chelsea . . .	8	3	1	0	0
Cambridge .	13	2	2	0	1
Salem	6	1	1	0	0
Lawrence . .	3	1	1	1	0
Springfield .	8	3	1	0	0
Lynn	12	3	1	0	1
Fitchburg . .	2	0	0	2	0
Taunton . .	4	1	0	0	1
Newburyport	3	1	0	0	1
Somerville . .	2	1	0	0	0
Fall River .	9	2	1	0	0
Haverhill . .	5	1	1	0	0
Holyoke. . .	6	1	0	1	2
	260	48	31	17	15

Holyoke reports one death from smallpox.

GEORGE DERBY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Feb. 18th, 129. Males, 72; females, 57. Accident, 2—apoplexy, 4—inflammation of the bowels, 2—bronchitis, 4—disease of the brain, 3—cyanosis, 1—cellulitis, 1—consumption, 18—convulsions, 6—croup, 5—debility, 6—diarrhœa, 1—dropsy, 3—dropsy of brain, 3—diphtheria, 1—scarlet fever, 6—typhoid fever, 1—gastritis, 1—disease of the heart, 6—infantile, 2—intemperance, 6—disease of the kidneys, 4—laryngitis, 1—disease of the liver, 1—congestion of the lungs, 3—inflammation of the lungs, 17—marasmus, 5—old age, 3—paralysis, 1—pleurisy, 1—premature birth, 1—puerperal diseases, 2—suicide, 1—disease of the spine, 1—tumor, 1—whooping cough, 1—unknown, 4.

Under 5 years of age, 49—between 5 and 20 years, 6—between 20 and 40 years, 40—between 40 and 60 years, 14—above 60 years, 20. Born in the United States, 89—Ireland, 29—other places, 11.